

REMARKS

Claims 1, 3-8 and 20 are all the claims pending in the application.

I. Claim Rejections under 35 U.S.C. § 103(a)

A. Claim 1 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Yasue (US 6,010,768).

Claim 1, as amended, recites the features of forming a resin layer by superposing a semi-cured resin sheet having resin patterns formed thereon on the surface of the printed wiring board containing said circuit patterns, the resin patterns formed on the semi-cured resin sheet being the inverse of the circuit patterns formed on the printed wiring board; wherein said resin patterns on said semi-cured resin sheet are formed before said semi-cured resin sheet is superposed on the surface of the printed wiring board, said resin patterns being formed on a surface of said semi-cured resin sheet facing said circuit patterns.

Applicant respectfully submits that Yasue does not disclose, suggest or otherwise render obvious the above-noted features recited in amended claim 1 for at least the following reasons.

First, Applicant notes that on page 6 of the Office Action, the Examiner has indicated that “the prior art Yasue et al do suggest in an obviousness reasoning that the complementary resin circuit patterns (Fig. 3C to 3D, 14) are complementary to the circuit patterns (Fig. 3D, 5)” (see Office Action at page 6). Based on this comment in the Office Action, it appears as though the Examiner is taking the position that after the filling resin 14 of Yasue is disposed on both side surfaces of the substrate 1, that the filling resin 14 will have a complementary pattern to that of the copper pattern 5 (see Figs. 3C and 3D; and col. 23, lines 49-56).

Regarding such a position, as noted above, claim 1 has been amended to recite that the resin patterns formed on the semi-cured resin sheet are the inverse of the circuit patterns formed on the printed wiring board, wherein the resin patterns on said semi-cured resin sheet are formed before said semi-cured resin sheet is superposed on the surface of the printed wiring board.

With respect to such a feature, Applicants note that because the filling resin 14 of Yasue clearly is not provided with a resin pattern that is the inverse of the circuit patterns 5 before being disposed on the substrate 1, Applicant respectfully submits that Yasue clearly does not disclose or suggest the above-noted features recited in amended claim 1.

Second, on pages 6-7 of the Office Action, the Examiner has indicated that the resin paste itself of Yasue is made of microsize particles while the PCT circuit pattern is spaced at least in the millimeter width, which is a thousand times bigger than the resin particles, and therefore, that there should not be any problem filling up the spaces between the circuit patterns (see Office Action at page 6).

Regarding the above-noted comment made by the Examiner, while Yasue discloses that resin particles are generally of a micrometer width, Applicant respectfully submits that the PCB circuit patterns are not spaced in at least the millimeter width. Instead, Applicant submits that PCB circuit patterns are generally spaced so as to have a micrometer width. Applicant is submitting herewith a Declaration under 37 C.F.R. 1.132 which states that at the time of filing the present application, printed circuit board design generally included PCB circuit patterns spaced in a micrometer width of approximately 50 micrometers, and resin particles of approximately 5 micrometers in width.

Based on the foregoing, Applicant notes that because both the PCB circuit pattern spacing and the resin particle size are of a micrometer width, that by utilizing a semi-cured resin

sheet having resin patterns formed beforehand, it is possible to make the resin layer substantially uniform even in the presence of sparse or dense sections of circuit patterns on the substrate (see paragraph [0009] of the specification).

In view of the foregoing, Applicant respectfully submits that because Yasue merely discloses the use of a filling resin 14 that is formed on surfaces of the substrate 1, that Yasue does not disclose, suggest or otherwise render obvious the above-noted features recited in amended claim 1 of forming a resin layer by superposing a semi-cured resin sheet having resin patterns formed thereon on the surface of the printed wiring board containing said circuit patterns, the resin patterns formed on the semi-cured resin sheet being the inverse of the circuit patterns formed on the printed wiring board; wherein said resin patterns on said semi-cured resin sheet are formed before said semi-cured resin sheet is superposed on the surface of the printed wiring board, said resin patterns being formed on a surface of said semi-cured resin sheet facing said circuit patterns.

Accordingly, Applicant submits that amended claim 1 is patentable over the cited prior art, an indication of which is kindly requested.

B. Claims 3, 4 and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Yasue (US 6,010,768) in view of Applicant's Admitted Prior Art (AAPA).

Claims 3, 4 and 20 depend from claim 1. Applicant submits that AAPA fails to cure the deficiencies of Yasue, as discussed above, with respect to claim 1. Accordingly, Applicant submits that claims 3, 4 and 20 are patentable at least by virtue of their dependency.

C. Claims 5-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Yasue (US 6,010,768) in view of Applicant's Admitted Prior Art (AAPA), and further in view of Fukutomi et al. (US 6,268,648).


Claims 5-8 depend from claim 1. Applicant submits that Fukutomi fails to cure the deficiencies of Yasue and AAPA, as discussed above, with respect to claim 1. Accordingly, Applicant submits that claims 5-8 are patentable at least by virtue of their dependency.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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